

LEGISLATIVE #

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From: Combs, Ronald D.
Sent: Thursday, February 16, 2012 10:42 AM
To: Osborne, Rhonda L.
Cc: Libby, Lee C.; Bates, Wendy M.
Subject: Noise Regulation of Low level Noise (Florida)

How Other Jurisdictions deal with low level noise.

A-Weighting

A filter applied to noise measurements, intended to replicate the frequency sensitivity of the human ear. The A-weighting is the most commonly-used weighting scale in hearing conservation programs, as it predicts quite well the damage risk of the ear. Sound level meters set to the A-weighting scale will filter out much of the low-frequency noise they measure, similar to the response of the human ear. Noise measurements made with the A-weighting scale are designated dBA. If A-weighted measurements are used to determine adequacy of hearing protection, OSHA instructions stipulate that a correction factor of 7 dB should be subtracted from the NRR of the hearing protector (as an error cushion for C-minus-A differences), then subtract the resulting lower NRR from the dBA noise measure to determine the protected noise level for the worker. (see also *C-Weighting*)

C-Weighting

A filter applied to noise measurements. In contrast to the A-weighting, **the C-weighting is a “flatter” filter, and allows more low frequencies to be measured.** The C-weighting was originally conceived to be the best predictor of the ear’s sensitivity to tones at high noise levels. But the ear’s risk to damage from noise has since been found to be predicted much better by the A-weighting scale. Noise measurements made with the C-weighting scale are designated dBC. If C-weighted measurements are used to determine adequacy of hearing protection, U.S. OSHA instructions state that the NRR of the hearing protector should be subtracted directly from the dBC noise measure to determine the protected noise level for the worker. (see also *A-Weighting*)

Orlando, Florida

Sec. 42.04. - Prohibited Acts.

- (1) No person shall produce, cause to be produced, or allow to be produced, by any means, any noise within any private property which, when measured fifty (50) feet from the source of the noise or at the real property line of the property generating said noise, exceeds the applicable sound level limits set forth in Chart 1 and as measured as set forth in Section 42.03(2).
- (2) No person shall produce, cause to be produced, or allow to be produced, by any means, any noise within any public property which, when measured fifty (50) feet from the source of the noise, exceeds the applicable sound level limits set forth in Chart 1 and as measured as set forth in Section 42.03(2).

CHART 1. MAXIMUM NOISE LEVELS IN A AND C-WEIGHTED DECIBELS

This chart establishes the maximum permissible noise level, measured in A-weighted and C-weighted decibels, which may be generated in the defined locations at the described time periods. As used below, dBA and dBC shall be the symbol designations of a noise level, using the A-weighting and C-weighting network of sound level meters. For purposes of this Chapter, noise shall be measured using the slow exponential time weighting characteristic of the sound level meter.

Type of Property Generating Noise	Class A Standard 7 AM–10 PM	Class A Standard 10 PM–7 AM	Class B Standard
Residential	60 dBA/65 dBC	55 dBA/60 dBC	65 dBA/70 dBC
Multi-Use	65 dBA/70dBC	55 dBA/60 dBC	65 dBA/70 dBC

Commercial	70 dBA/75 dBC	65 dBA/70 dBC	75 dBA/80 dBC
Industrial	75 dBA/80 dBC	75 dBA/70 dBC	85 dBA/90 dBC

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Class B Standards apply to noises originating from heavy manufacturing uses, as defined in the City's Land Development Code. Class A Standards apply to all other uses.

Downtown Entertainment Area	7 AM–11:59 PM 75dBA/80dBC	12 AM–7AM 70dBA/75dBC	Weekdays
	7 AM–1:59 AM 75 Dba/80 dBC	2 AM–7 AM 70 dBA/75 dBC	Weekends

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TAMPA, FLORIDA

Sec. 14-151. - Excessive noise prohibited.

(a) *Prohibition of excessive noise.* It shall be unlawful for any person(s), to permit, cause, allow, amplify, create, emit, or sustain excessive noise on any property, including air space thereof, located in the City of Tampa. Excessive noise shall be that noise which exceeds the limitations set forth in this section.

(b) *Noise limitations.* The maximum dBA and dBC sound levels permitted on any property within the City of Tampa, shall be as follows:

(1) In the Central Business District, the Ybor City Historic District and the Channel District as each is delineated in Chapter 27, City of Tampa Code, the average measurement taken between ten (10) and twenty (20) seconds shall be no greater than the maximum levels set out below. The measurement shall be taken from the property line, or individual lease boundary in the case of property which has been subdivided by the execution of individual leases, of the noise generating property:

- a. Eighty-five (85) dBA or eight-seven (87) dBC between the hours of 6:00 p.m. and 3:00 a.m.
- b. Sixty-five (65) dBA or seventy-five (75) dBC between the hours of 3:00 a.m. and 6:00 p.m.

(2) In all areas of the City of Tampa other than those areas listed in subsection (b)(1) above, the average measurement taken between (10) and twenty (20) seconds shall be no greater than the maximum levels set out below. The measurement shall be taken from a receiving property at the property line closest to the noise generating property:

- a. Sixty (60) dBA or sixty-five (65) dBC between the hours of 7:00 a.m. and 10:00 p.m.
- b. Fifty-five (55) dBA or sixty-five (65) dBC between the hours of 10:00 p.m. and 7:00 a.m.

(3) Unless otherwise exempted under subsection (c) hereof, all persons or businesses who own or operate devices, equipment or machinery which generate noise levels in excess of the maximum dBA or dBC levels listed in subsection (b)(2)b above, shall turn off such devices, equipment, or machinery by 10:00 p.m., or at the conclusion of operating hours for the business if such operating hours conclude prior to 10:00 p.m., unless such persons or business can demonstrate that such devices, equipment, or machinery must remain in operation beyond the operating hours of the business in order to avoid personal injury to persons or physical damage to property.

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FT. LAUDERDALE, FLORIDA

A-weighted sound level means the sound level as measured with the A-weighting network on a sound level meter meeting the standards set forth in the American National Standards Institute (ANSI) S1.4-1983 or its successors. The unit of reporting is dBA. Sounds measured with the "A" weighting network approximate the response of human hearing when measuring sounds of low to moderate intensity without an amplified low frequency component.

C-weighted sound level is the sound level as measured using the "C" weighting network with a sound level meter meeting the standards as set forth in ANSI S1.4-1983 or its successors. The unit of reporting is dBC. The "C" weighting network is more sensitive to low frequencies than the "A" weighting network.

Sec. 17-4. - Sound level measurement.

Sound level measurement shall be made with a sound level meter using the "A" weighting scale or "C" weighting scale, as specified in this chapter for the specific sound source being investigated.

Sec. 17-7. - Specific restrictions.

1. Amplified sound. No person shall cause, allow, or permit the operation of any amplified sound device from the following use districts or locations in the following manner:
 - a. Residential use:
 - i. Sound shall not be plainly audible for a period of one (1) minute or longer at a distance of twenty-five (25) feet or more when measured from the source property line between the hours of 10:00 p.m. and 7:00 a.m. daily.
 - ii. Sound shall not be plainly audible for a period of one (1) minute or longer at a distance of fifty (50) feet or more when measured from the source property line between the hours of 7:00 a.m. and 10:00 p.m. daily.
 - b. Rights-of-way. Sound shall not be plainly audible at a distance of twenty-five (25) feet or more from a motor vehicle or any other sound source.
 - c. Special entertainment overlay district. When measured at a distance of five (5) feet from the building, structure or establishment from which the sound is emanating:
 - i. Sound shall not exceed:
 1. Eighty-five (85) dBA or ninety-five (95) dBC Monday through Thursday from 12:00 p.m. to 12:00 a.m. the following day:
 2. Seventy (70) dBA or eighty (80) dBC Monday through Thursday from 12:00 a.m. to 2:00 a.m.
 3. Sixty-five (65) dBA or seventy-five (75) dBC Monday through Thursday from 2:00 a.m. to 12:00 p.m.
 - ii. Sound shall not exceed:
 1. Eighty-five (85) dBA or ninety-five (95) dBC Friday through Sunday and legal holidays (as provided by state law), from 12:00 p.m. to 1:00 a.m. the following day:
 2. Seventy (70) dBA or eighty (80) dBC Friday through Sunday and legal holidays (as defined by state law), from 1:00 a.m. to 3:00 a.m.
 3. Sixty-five (65) dBA or seventy-five (75) dBC Friday through Sunday and legal holidays (as defined by State law), from 3:00 a.m. to 12:00 p.m.
 - d. Commercial, mixed-use, or industrial uses. No person shall cause, allow, or permit the operation of any amplified sound device in such a manner that it exceeds the following sound level limits:
 - i. From 12:00 p.m. to 10:00 p.m. daily: sound levels shall not exceed sixty (60) dBC when measured within the premises of a complainant.
 - ii. From 10:00 p.m. daily to 12:00 p.m. the following day: sound levels shall not exceed fifty-five (55) dBC when measured within the premises of a complainant.
 - iii. Sound level limits in Table 1 shall apply when sound level measurements are taken outdoors at or within the property line of the complainant.

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BOCA RATON, FLORIDA

Boca Raton mentions the dBC measure in its ordinance:

"Sound pressure level" shall mean, in decibels, 20 times the logarithm to the base 10 of the ratio of the pressure of the sound to the reference sound pressure. The reference is 0.0002 microbar. The sound pressure level may be evaluated

using FLAT, A, B, or C scales as defined by the American National Standards Institute, and shall be labeled dB, dBA, dBB or dBC respectively.

However, the measures listed are all in dBA:

Sec. 10-73. - Motor vehicles generally.

No person shall sell or offer for sale a new motor vehicle that produces a maximum noise level exceeding the following limit at a distance of 50 feet from the centerline of travel under test standards and recommendations as defined by the American National Standards Institute or its successor bodies, or the Society of Automotive Engineers or its successor bodies.

Type of vehicle:	Noise Limit
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- (a) Motorcycle:
 - Manufactured after January 1, 1973 86 dBA
 - Manufactured after January 1, 1975 80 dBA
 - Manufactured after January 1, 1980 75 dBA
- (b) Passenger cars, motor-driven cycles or any other vehicle under 8,000 pounds:
 - Manufactured after January 1, 1973 84 dBA
 - Manufactured after January 1, 1975 80 dBA
 - Manufactured after January 1, 1980 75 dBA
- (c) Any motor vehicle with a gross vehicle weight of 8,000 pounds or over:
 - After January 1, 1973 86 dBA
 - After January 1, 1975 80 dBA
 - After January 1, 1980 75 dBA

The manufacturer, distributor, importer or designated agent shall upon request certify in writing to the city that his vehicles sold within the city comply with the provisions of this section.

Sec. 10-74. - Operation of motor vehicles.

No person shall operate within the city a motor vehicle or combination of vehicles of a type subject to registration at any time or under any conditions of grade, load, acceleration, deceleration in speed in such a manner so as to exceed the following noise level limits for the category of vehicle, based on a distance of not less than 50 feet from the centerline of the travel under test standards and recommendations as defined by the American National Standards Institute, or its successor bodies, or the Society of Automotive Engineers, or its successor bodies.

Type of Vehicle	Period of Operation	Noise Limit	
		35 mph or less	35 mph or more
(a) Motorcycle	Before 1 January 1975	78 dBA	82 dBA
	After 1 January 1975	74 dBA	78 dBA
(b) Passenger cars, motordriven cycles, or any other motor vehicle under 8,000 pounds or combination of such vehicles	Before 1 January 1975	75 dBA	79 dBA
	After 1 January 1975	70 dBA	74 dBA
(c) Any motor vehicle with a gross weight of 8,000 pounds or more	After 1 January 1973	86 dBA	90 dBA

This section applies to the total noise from a vehicle or combination of vehicles and shall not be construed as limiting or precluding the enforcement of any other provision of this Code relating to motor vehicle mufflers for noise abatement.

Sec. 10-77. - Boats.

No person shall operate any engine-powered pleasure vessel, engine-powered craft or motor boat on any body of water, lake, canal or waterway within the city in such a manner as to exceed the following noise limit as measured at a distance of not less than 50 feet from the path of travel:

Before 1 January 1975 83 dBA

After 1 January 1975 74 dBA

Sec. 10-78. - Power tools.

No person shall sell or lease or offer for sale or lease any powered equipment or powered hand tool that produces a maximum noise level exceeding the following noise limits at a distance of 50 feet:

Equipment Type

- (a) Construction and industrial machinery such as crawler-tractors, dozers, rotary drills, and augers, loaders, saws, powered industrial hand tools, powered shovels, cranes, derricks, motor graders, paving machines, off-highway trucks or vehicles, ditchers, trenchers, compactors, scrapers, wagons, pavement breakers, pumps, generators, compressors, and pneumatic equipment, but not including pile drivers:

Noise

Limit

Manufactured after 1 January 1973 88 dBA

Manufactured after 1 January 1975 86 dBA

Manufactured after 1 January 1980 80 dBA

- (b) Powered equipment intended for repetitive use in residential areas including but not restricted to lawn mowers, riding tractors and small lawn and garden tools:

Manufactured after 1 January 1973 74 dBA

Manufactured after 1 January 1975 70 dBA

Manufactured after 1 January 1978 65 dBA

The manufacturers, distributors, importers or designated agent shall upon request certify in writing to the city that his products sold or leased within the city comply with the provisions of this section.

**Other municipalitites using same dBA measurement only as Gainesville -- Daytona Beach, ,
Ft Myers, Jacksonville, Miami, Panama City.**